Michigan Overdose Data to Action Dashboard Documentation

Contents

Indicator Definitions

Provisional Overdose Deaths

This indicator provides a provisional estimate of the number of drug poisoning deaths among Michigan residents that occurred in the most recent 12-month period that data is available. These data come from the State Unintentional Drug Overdose Reporting System (SUDORS) and the Violent Death Reporting System (VDRS). Due to reporting lags, data are available for the twelve-month period ending five months prior to the current month. For example, in December of 2021, data will be available for the period of August 2020 through July 2021. Data are considered provisional and subject to change as more complete data are received. Monthly rates are calculated by dividing the total number of overdose deaths occurring in a month by the number of Michigan residents and multiplying the result by 100,000. The Michigan resident population is derived from the most recent vintage of the National Center for Health Statistics (NCHS) bridged race postcensal population estimates. Cases are eligible for inclusion if the death certificate meets one of the following conditions:

- Contains an International Classification of Disease, 10th Revision (ICD-10) code for unintentional poisoning (X40-X44), intentional self-poisoning (X60-X64), assault by drug poisoning (X85), or drug poisoning of undetermined intent (Y10-Y14) in the underlying cause of death.
- Includes an ICD-10 code for poisoning by drugs, medicants, and biological substances (T36.0-T50.9) in any cause of death field.
- Has a blank or pending underlying cause of death code (R99) and contains words associated with drug poisoning in any of the four underlying cause of death fields (e.g., drugs, drug abuse, intoxication, medication, multidrug, polydrug, toxicity, toxic effects, buprenorphine, carfentanil, codeine, dihydrocodeine, fentanyl, heroin, hydrocodone, methadone, morphine, oxycodone, tramadol).

Provisional overdose deaths by race do not include unknown race. The "Other" group is a combination of American Indian, Alaska Native, Asian, Pacific Islander, and Other.

Overdose Emergency Department Visits

This indicator provides an estimate of the number of emergency visits for drug poisonings among Michigan residents that occurred in the most recent 12-month period that data is available. These data come from MiCelerity surveillance system and are available beginning in January 2020. MiCelerity captures real-time HL7 electronic health information in the form of Admission, Discharge, and Transfer (ADT) messages exchanged between most Michigan hospitals and the Michigan Health Information

Network. For more information on MiCelerity, refer to the User Guide. Monthly estimates are updated roughly two weeks after the end of each month. For example, by mid-December of 2021, data will be available for the period of December 2020 through November 2021. Data are considered provisional and subject to change as more complete data are received. Monthly rates are calculated by dividing the total number of overdose emergency department visits occurring in a month by the number of Michigan residents in the selected geographic area and multiplying the result by 100,000. The Michigan resident population is derived from the most recent vintage of the NCHS bridged race postcensal population estimates. Emergency department visits are eligible for inclusion if the emergency ADT message includes one or more International Classification of Disease, 10th Revision, Clinical Modification (ICD-10-CM) codes for an initial visit for drug poisoning (T36-T50 with a sixth character of 1-4 and a seventh character of "A"). Follow-up and sequelae visits, as well as visits related to adverse effects and underdosing of substances are excluded.

Probable Opioid Overdose Emergency Medical Service (EMS) Responses

This indicator provides an estimate of the number of emergency medical service (EMS) responses for probable opioid poisonings occurring in Michigan within the most recent 12-month period that data is available. These data come from the Michigan Emergency Medical Services Information System (MiEMSIS), the EMS documentation system for all EMS agencies in Michigan. To learn more about MiEMSIS, visit https://www.michigan.gov/mdhhs/0,5885,7-339-73970_5093_28508-211272--,00.html.

EMS probable opioid overdoses are identified in MiEMSIS data through a likelihood formula that considers EMS provider impression, chief complaint, narrative, respiratory rate, Glasgow Coma Scale, medications administered (includes naloxone administration), and procedures performed during the response and creates a composite score. EMS responses are classified as probable overdoses if the score exceeds a minimum threshold score or if the patient improved after being administered naloxone. Due to the substantial percent of EMS probable opioid overdoses with missing information on patient residence (24.3% of 2020 records), data are classified by the county of occurrence and not restricted to Michigan residents. Monthly estimates are updated roughly two weeks after the end of each month. For example, in December of 2021, data will be available for the period of December 2020 through November 2021. Data are considered provisional and subject to change as more complete data are received. Monthly rates are not calculated due to the inclusion of non-Michigan residents.

Percent of Pharmacies Participating in the Naloxone Standing Order

This indicator represents the percentage of licensed pharmacies located in Michigan that are registered to dispense naloxone under the Michigan Department of Health and Human Services (MDHHS) standing order policy. Naloxone is a medication that can rapidly reverse an opioid overdose and may be formulated as an auto-injectable (e.g., Evizo®) or a nasal-spray (e.g., Narcan®). The MDHHS standing order policy allows a pharmacist to dispense Naloxone without an individual prescription and without identifying a particular patient. Data are provided for the most recent calendar year quarter one month after the end of the quarter. For example, data for January through March will be updated in April. Pharmacies with suspended licenses and pharmacies that exclusively operate online are excluded. Data are aggregated by the county of the pharmacy store location.

Syringe Service Program Sites

This indicator represents the number of MDHHS-funded syringe service program (SSP) site locations. SSPs provide a wide range of harm reduction services to individuals who use drugs including distributing sterile syringes and providing naloxone, hepatitis C and HIV testing, certain vaccinations, recovery coaching and substance use disorder treatment referral, basic wound care, and access to safer sex education and supplies. A single organization may administer multiple site locations. This indicator is based on data collected in the Syringe Service Program Utilization Platform (SUP), the database that collects utilization and encounter data from syringe service program (SSP) partners in real-time. Data are aggregated by quarter and updated roughly 30 days after the end of each quarter.

Syringe Service Program Encounters

This indicator represents the number of primary and secondary client encounters at MDHHS-funded SSP locations. A primary encounter is defined as a single occurrence where an individual directly participates in a service offered by an SSP location. (A single client may receive services on multiple occurrences, each occurrence is defined as an encounter.) A secondary encounter is defined as a single occurrence where an individual indirectly participates in a service offered by an SSP location through a primary client (primary client received services on their behalf). This indicator is based on data collected in the SUP. Data are aggregated by quarter and updated roughly 30 days after the end of each quarter.

Naloxone Portal Kit Orders

This indicator represents the number of naloxone kits ordered through the online MDHHS Naloxone Portal. The MDHHS Naloxone Portal was launched in January 2020 to help supply naloxone to organizations such as jails, law enforcement, first responders, and community-based organizations. While there are no restrictions on the state of the organization, all requestors, as of February 2021, have been located in Michigan. Data are aggregated by calendar year and by the type of agency that submitted the request. Data are updated quarterly roughly 30 days after the end of the quarter.

Publicly Funded Substance Use Disorder Treatment Episodes

This indicator represents the number of publicly funded treatment episodes for substance use disorder among Michigan residents. A treatment episode is defined as an event in which an individual is admitted to a licensed, publicly funded treatment program for substance use disorder. Treatment episodes include both inpatient/residential and outpatient SUD treatment. A treatment episode lasts until the patient is formally discharged from treatment or transitions to a new licensed SUD provider. A treatment episode may consist of multiple unique visits. Only SUD treatment admissions for a patient that indicated a drug as a primary substance of abuse are included. Treatment episodes with alcohol listed as the primary substance of use and episodes for mental health disorders without co-occurring SUD treatment are excluded. This indicator is based on data collected in the Behavioral Health – Treatment Episode Data Set (BH-TEDS). Data are aggregated by quarter and updated roughly 45 days after the end of each quarter.

Median Days from First Request to Substance Use Disorder Treatment

This indicator represents the median number of days from the first contact requesting a service to the first billable, publicly funded treatment session for substance use disorder (SUD) among Michigan residents. In statistics, a median is the number that lies directly in the middle of a series of numbers sorted by value.

Only SUD treatment admissions for a patient that indicated a drug as a primary, secondary, or tertiary substance of use are included. Treatment episodes with alcohol listed as the primary substance of use and episodes for mental health disorders without co-occurring SUD treatment are excluded. For this indicator, treatment does not include brief screening services. Data are aggregated by quarter and updated roughly 45 days after the end of each quarter.

Buprenorphine Prescription Dispensations

This indicator represents the number of prescription buprenorphine units dispensed to Michigan residents prescribed by Michigan prescribers. This indicator is based on data from the Michigan Automated Prescription System (MAPS). Board of Pharmacy Administrative Rule 338.3162b states all pharmacies, dispensing practitioners, and veterinarians who dispense schedules 2-5 controlled substances are required to electronically report this prescription data to MAPS daily. Reporting exemptions include controlled substances administered to patients who are inpatient and controlled substances that are dispensed by a physician at a medical institution for a maximum of 48 hours. The data are aggregated by quarter and updated roughly 30 days after the end of each quarter. The data excludes: medications containing buprenorphine commonly used to treat pain (Belbuca, Buprenex, Butrans), medications dispensed to patients with an unknown state, and medications prescribed by an out-of-state provider.

The data are aggregated by quarter and updated roughly 30 days after the end of each quarter. Rates are based on the patient county of residence and are calculated by dividing the total number of buprenorphine units dispensed during the quarter by the number of county residents and multiplying by 1,000.

Opioid Prescription Dispensations

This indicator represents the number of prescription opioid analgesic pills (units) dispensed to Michigan residents prescribed by Michigan prescribers. Analgesics include drugs used to treat pain. Prescription drugs containing partial opioid agonists used to treat opioid use disorder (e.g., Suboxone) are excluded from this indicator. Medications prescribed by out-of-state healthcare providers are also excluded.

This indicator is based on data from the Michigan Automated Prescription System (MAPS). Board of Pharmacy Administrative Rule 338.3162b states all pharmacies, dispensing practitioners, and veterinarians who dispense schedules 2-5 controlled substances are required to electronically report this prescription data to MAPS daily. Reporting exemptions include controlled substances administered to patients who are inpatient and controlled substances that are dispensed by a physician at a medical institution for a maximum of 48 hours. The data are aggregated by quarter and updated roughly 30 days after the end of each quarter. Rates are based on the patient county of residence and are calculated by dividing the number of opioid units dispensed during the quarter by the number of county residents and multiplying by 100,000.

Statistical Notes

Calculation of Rates

A rate measures the frequency an event that occurs in a defined population over a specified period. Rates are useful for comparing event frequency in different locations, at different times, or among different groups of people because they account for differences in the size of the underlying population.

Rates are calculated by taking the number of events, such as emergency department visits or deaths among people that live in a specific area and dividing by the total number of people that live in the specific area, and then multiplying the result by 100,000. An exception to this rule is the buprenorphine providers rate, which is calculated by taking the number of buprenorphine prescribers who practice in a specific area and dividing by the total number of people that live in the specific area and multiplying the result by 100,000.
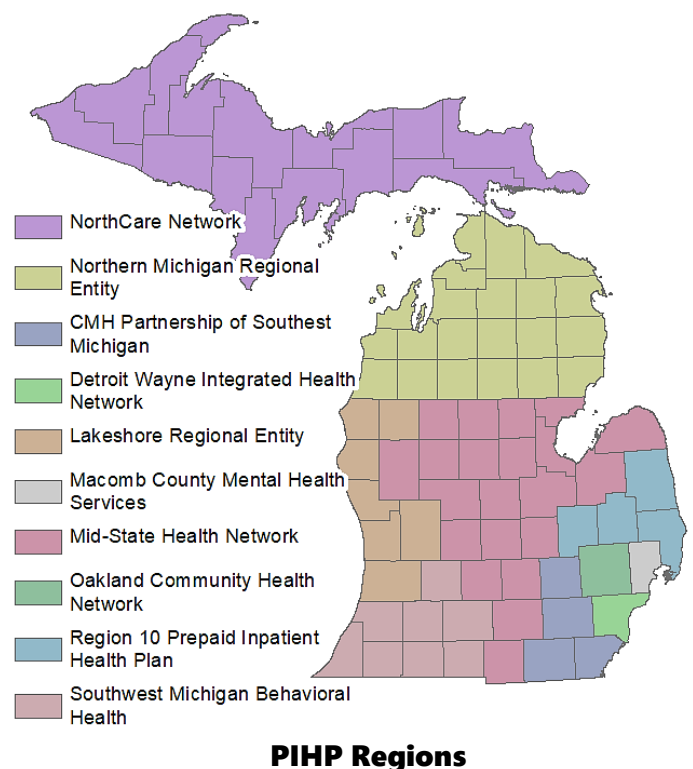
Data Suppression

Data representing people (e.g., overdose deaths, overdose emergency department visits, probable opioid overdose EMS response) are suppressed when the number of events is between one and five to protect the confidentiality of individuals. Additionally, rates are suppressed when the numerator is between one and five to preserve statistical stability.

Geographic Breakdowns

Prepaid Inpatient Health Plan (PIHP) Regions

A Prepaid Inpatient Health Plan (PIHP) is an organization that is responsible for managing behavioral health and development disabilities services, including substance use disorder treatment, for Michigan residents enrolled in Medicaid. Each PIHP manages services for individuals living in their service area. The map to the right shows which counties are in each of the ten Michigan PIHP regions.

Legend:
- NorthCare Network
- Northern Michigan Regional Entity
- CMH Partnership of Southest Michigan
- Detroit Wayne Integrated Health Network
- Lakeshore Regional Entity
- Macomb County Mental Health Services
- Mid-State Health Network
- Oakland Community Health Network
- Region 10 Prepaid Inpatient Health Plan
- Southwest Michigan Behavioral Health

PIHP Regions

5-Region

This classification divides Michigan counties into five broad regions within the state: the Upper Peninsula, and within the Lower Peninsula: the Northeast, Northwest, Southeast, and Southwest.

Legend:
- Northeast
- Northwest
- Southeast
- Southwest
- Upper Peninsula
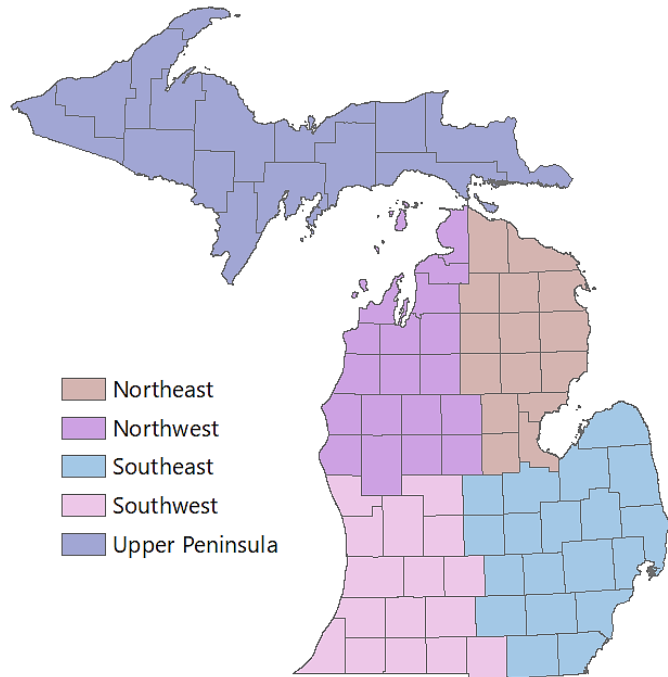
5-Region Categorization

Emergency Preparedness Region

This classification is used by the Michigan Department of Health and Human Services Bureau of EMS, Trauma, and Preparedness for emergency planning and response purposes. Counties within Michigan are grouped into eight emergency preparedness regions.


Legend:
- 1
- 2N
- 2S
- 3
- 5
- 6
- 7
- 8
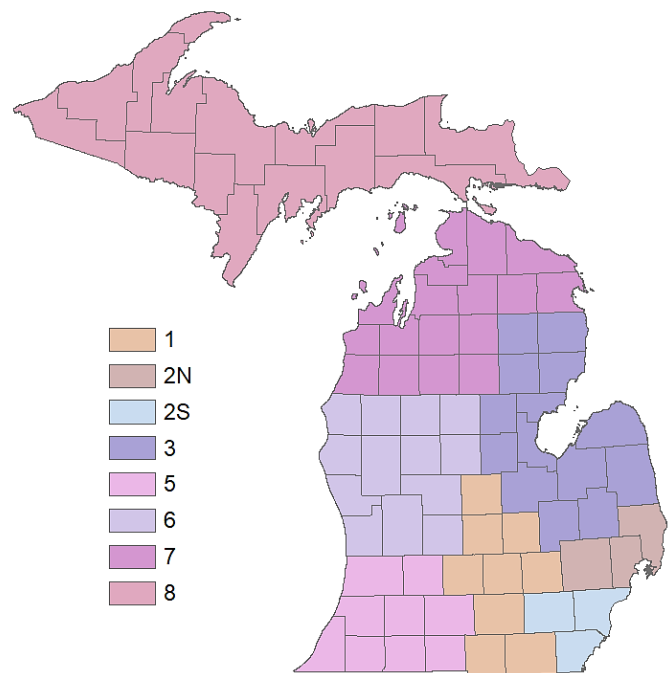
Emergency Preparedness Regions

Urbanicity

The urbanicity categories are based on the [National Center for Health Statistics (NCHS) Urban-Rural Classification Scheme for Counties](#). The NCHS scheme classifies counties into six levels of urbanicity: large central metro, medium metro, small metro, large fringe metro, micropolitan, and noncore. For ease of interpretation, these categories were combined into three levels: Urban (large central metro, medium metro, small metro), Suburban (large fringe metro), and Rural (micropolitan, noncore).
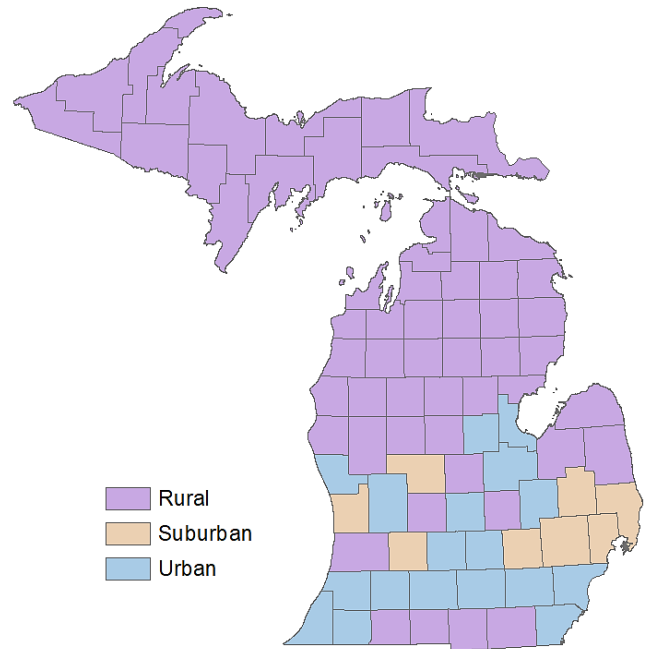
Urbanicity Categorizations

Michigan State Police (MSP) Districts

This classification divides Michigan counties into seven districts within the state.
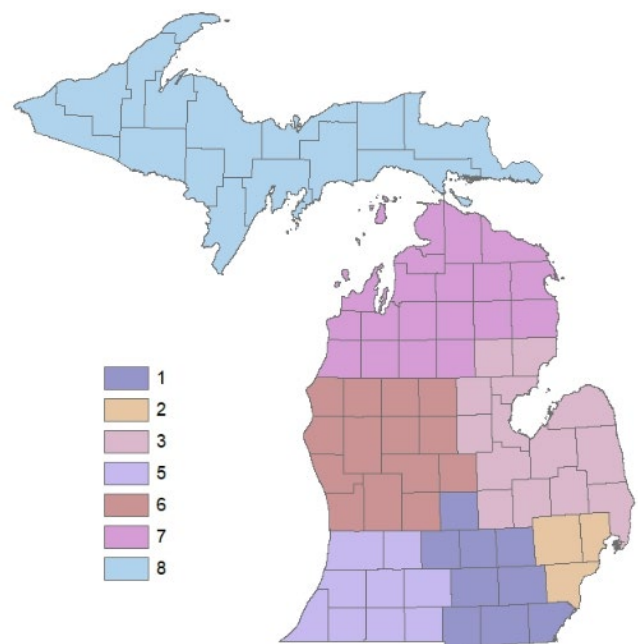

MSP Districts

Local Health Departments

Each Michigan county is supported by a local health department (LHD). LHDs protect and improve health outcomes in their communities. In less populous regions of the state, several Michigan LHDs support multiple counties. Michigan currently has 45 LHDs. See the list below of counties and their corresponding health departments.

Local Health Department	Counties Covered
Allegan County Health Department	Allegan
Bay County Health Department	Bay
Barry-Eaton District Health Department	Eaton
	Barry
Berrien County Health Department	Berrien
Branch-Hillsdale-St. Joseph Community Health Agency	Hillsdale
	Branch
	Saint Joseph
Benzie-Leelanau District Health Department	Benzie
	Leelanau
Calhoun County Health Department	Calhoun
Central Michigan District Health Department	Arenac
	Gladwin
	Clare
	Isabella
	Osceola
	Roscommon
Chippewa County Health Department	Chippewa
Public Health Delta-Menominee Counties	Delta
	Menominee
District Health Department #10	Lake
	Mason
	Mecosta
	Newaygo
	Oceana
	Crawford
	Kalkaska
	Manistee
	Missaukee
	Wexford
District Health Department #2	Alcona
	Iosco
	Ogemaw
	Oscoda
District Health Department #4	Alpena
	Cheyboygan

	Montmorency
	Presque Isle
Dickinson-Iron District Health Department	Dickinson
	Iron
Genesee County Health Department	Genesee
Grand Traverse County Health Department	Grand Traverse
Health Department of Northwest Michigan	Antrim
	Charlevoix
	Emmet
	Otsego
Huron County Health Department	Huron
Ingham County Health Department	Ingham
Ionia County Health Department	Ionia
Jackson County Health Department	Jackson
Kalamazoo County Health and Community Services	Kalamazoo
Kent County Health Department	Kent
Lapeer County Health Department	Lapeer
Lenawee County Health Department	Lenawee
Livingston County Health Department	Livingston
LMAS District Health Department	Alger
	Luce
	Mackinac
	Schoolcraft
Macomb County Health Department	Macomb
Marquette County Health Department	Marquette
Midland County Department of Public Health	Midland
Mid-Michigan District Health Department	Clinton
	Gratiot
	Montcalm
Monroe County Health Department	Monroe
Public Health Muskegon County	Muskegon
Oakland County Health Division	Oakland
Ottawa County Health Department	Ottawa
Saginaw County Department of Public Health	Saginaw
Sanilac County Health Department	Sanilac
Shiawassee County Health Department	Shiawassee
St Clair County Health Department	Saint Clair
Tuscola County Health Department	Tuscola
Van Buren/Cass District Health Department	Cass
	Van Buren
Washtenaw County Public Health Department	Washtenaw
Wayne County Health Department	Wayne

West UP District Health Department	Baraga
	Gogebic
	Houghton
	Keweenaw
	Ontonagon
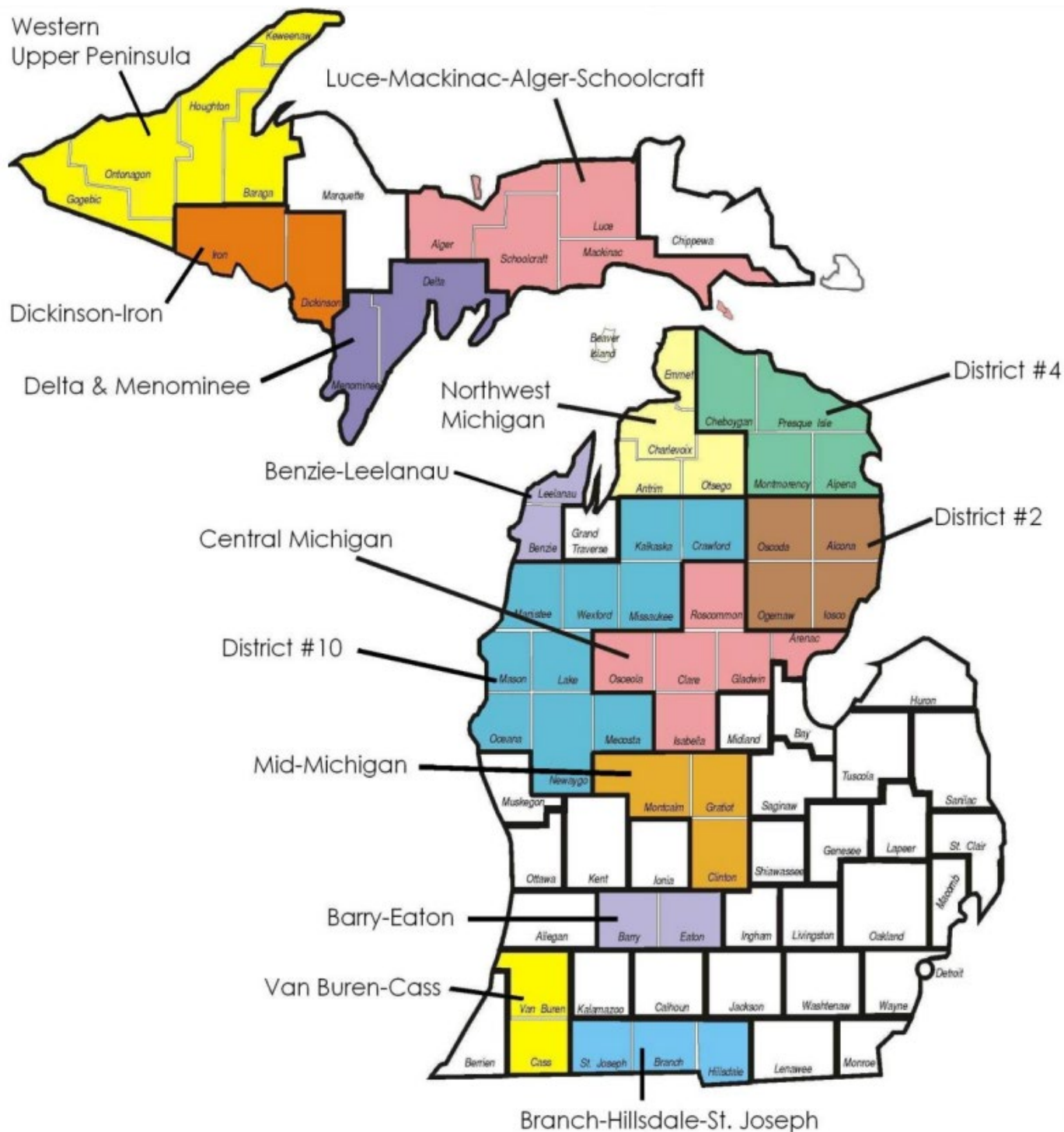
Local Health Department Jurisdictions
Note: counties in white are served by a single local health department

Image Source:
https://www.malph.org/sites/default/files/files/Forums/Admin/December%202014/Regional%20Maps%202014.pdf